UNIVERSAL WINDOW TIMES
JANUARY 1979 thru DECEMBER 1979

EME OPERATING CHARTS

DIVISION OF VARIAN
301 Industrial Way
San Carlos, California

AS-49-22

4161

The following Universal Window times are based on the specifications outlined in AS-49-12. The European Universal Window is always during positive declination. The start of the window is two hours from the setting moon time in Frankfurt, Germany. The end of the window is when the moon sets at this same location. Keep in mind that Western Europe can still see the moon for another hour, or so, after the moon sets at Frankfurt. Also, the Western Hemisphere can still see the moon for many more hours. Quite often the European and U.S. stations will operate during negative declinations, and just before moonset in Europe, if the times are convenient. There is a good chance for activity on weekends on frequencies from 144.000 to 144.010 MHz.

Also included are the times each month for the new moon. When the moon and sun are at almost the same G.H.A. and declination, the moon cannot be seen because of the visible radiation from the sun. The radio frequency radiation will be sufficient to obliterate any echoes. The more antenna directivity a station has, the closer to the sun it can be used. There is a limit however. With a 160 element collinear on 144 MHz, it is usually possible to operate successfully one day before and one day after new moon.

Also included in this EME note are two charts that can be used to keep track of the progress being made during a moonbounce schedule. The charts can be run through a copy machine to obtain the quantity needed.

1979	New Moon	Perigee	Apogee
January	28	28	15
February	26	25	11
March	28	26	10
April	26	22	7
May	26	18	4
June	24	13	1,29
July	24	11	27
August	22	8	23
September	21	6	19
October	21	4	16
November	19	1,28	13
December	19	23	11

JANUARY-1979

Day	GMT
4	2100-2300
5-6	2212-0012
6-7	2320-0120
8	0026-0226
9	0128-0328
10	0226-0426
11	0320-0520
12	0408-0608
13	0450-0650
14	0528-0728
15	0600-0800
16	0628-0828
17	0654-0854
18	0720-0920

FE8RUARY-1979

Day	GMT
1	1956-2156
2	2108-2308
3-4	2216-0016
4-5	2320-0120
6	0020-0220
7	0116-0316
8	0206-0406
9	0250-0450
10	0328-0528
11	0402-0602
12	0432-0632
13	0500-0700
14	0524-0724
15	0548-0748
28	1730-1930

MARCH-1979

Oay	GMT
1	1846-2046
2	1958-2158
3	2108-2308
4-5	2212-0012
5-6	2310-0110
7	0002-0202
8	0048-0248
9	0128-0328
10	0204-0404
11	0234-0434
12	0302-0502
13	0328-0528
14	0324-0554
28	1618-1818
29	1734-1934
30	1846-2046
31	1954-2154

APRIL-1979

Oay	GMT
1	2058-2258
2	2154-2354
3-4	2244-0044
5	2326-0126
6	0004-0204
7	0036-0236
8	0106-0306
9	0132-0332
10	0158-0358
24	1354-1554
25	1510-1710
26	1624-1824
27	1734-1934
28	1842-2042
29	1942-2142
30	2036-2236

MAY-1979

Oay	GMT
1	2122-2322
2-3	2202-0002
3-4	2238-0038
4-5	2308-0108
5-6	2334-0134
7	0000-0200
8	0024-0224
22	1252-1452
23	1406-1606
24	1516-1716
25	1624-1824
26	1728-1928
27	1826-2026
28	1916-2116
29	2000-2200
30	0038-2238
31	2110-2310

JUNE-1979

Oay	GMT
1	2138-2238
2-3	2204-0004
3-4	2228-0028
18	1042-1242
19	1154-1354
20	1304-1504
21	1412-1612
22	1518-1718
23	1616-1816
24	1710-1910
25	1756-1956
26	1836-2036
27	1912-2112
28	1940-2140
29	2008-2208
30	2032-2232

JULY-1979

Day	GMT
1	2056-2256
15	0830-1030
16	0944-1144
17	1056-1256
18	1204-1404
19	1310-1510
20	1410-1610
21	1504-1704
22	1554-1754
23	1636-1836
24	1712-1912
25	1744-1944
26	1812-2012
27	1836-2036
28	1900-2100

AUGUST-1979

Day	GMT
12	0728-0928
13	0844-1044
14	0954-1154
15	0102-1302
16	1204-1404
17	1302-1502
18	1352-1552
19	1434-1634
20	1512-1712
21	1546-1746
22	1616-1816
23	1642-1842
24	1706-1906
25	1730-1930

SEPTEM8ER-1979

Day	GMT
8	0504-0704
9	0622-0822
10	0738-0938
11	0850-1050
12	0956-1156
13	1056-1256
14	1148-1348
15	1234-1434
16	1314-1514
17	1348-1548
18	1418-1618
19	1446-1646
20	1510-1710
21	1534-1734

OCTO8ER-1979

Day	GMT
6	0354-0554
7	0512-0712
8	0626-0826
9	0738-0938
10	0844-1044
11	0942-1142
12	1032-1232
13	1114-1314
14	1150-1350
15	1222-1422
16	1250-1450
17	1314-1514
18	1338-1538

NOVEM8ER-1979

Day	GMT
2	0126-0326
3	0244-0444
4	0400-0600
5	0516-0716
6	0624-0824
7	0728-0928
8	0824-1024
9	0910-1110
10	0950-1150
11	1024-1224
12	1054-1254
13	1118-1318
14	1142-1342
15	1206-1406
30	0024-0224

DECEM8ER-1979

Day	GMT
1	0138-0338
2	0254-0454
3	0404-0604
4	0510-0710
5	0610-0810
6	0702-0902
7	0746-0946
8	0824-1024
9	0856-1056
10	0922-1122
11	0946-1146
26-27	2212-0012
27-28	2326-0126
29	0038-0238
30	0150-0350
31	0256-0456

CALENDAR FOR THE YEAR 1979

JANUARY

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
⊗	29	30	31			

FEBRUARY

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
○	⊗	27	28			

MARCH

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	□
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	○	27	⊗	29	30	31

APRIL

S	M	T	W	T	F	S
1	2	3	4	5	6	□
8	9	10	11	12	13	14
15	16	17	18	19	20	21
○	23	24	25	⊗	27	28
29	30					

MAY

S	M	T	W	T	F	S
		1	2	3	□	5
6	7	8	9	10	11	12
13	14	15	16	17	○	19
20	21	22	23	24	25	⊗
27	28	29	30	31		

JUNE

S	M	T	W	T	F	S
					□	2
3	4	5	6	7	8	9
10	11	12	○	14	15	16
17	18	19	20	21	22	23
⊗	25	26	27	28	□	30

JULY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	○	12	13	14
15	16	17	18	19	20	21
22	23	⊗	25	26	□	28
29	30	31				

AUGUST

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	○	9	10	11
12	13	14	15	16	17	18
19	20	21	⊗	□	24	25
26	27	28	29	30	31	

SEPTEMBER

S	M	T	W	T	F	S
						1
2	3	4	5	○	7	8
9	10	11	12	13	14	15
16	17	18	□	20	⊗	22
23	24	25	26	27	28	29
30						

OCTOBER

S	M	T	W	T	F	S
	1	2	3	○	5	6
7	8	9	10	11	12	13
14	15	□	17	18	19	20
⊗	22	23	24	25	26	27
28	29	30	31			

NOVEMBER

S	M	T	W	T	F	S
				○	2	3
4	5	6	7	8	9	10
11	12	□	14	15	16	17
18	⊗	20	21	22	23	24
25	26	27	○	29	30	

DECEMBER

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	□	12	13	14	15
16	17	18	⊗	20	21	22
○	24	25	26	27	28	29
30	31					

NEW MOON ⊗

PERIGEE ○

APOGEE □

UW —

DATE STATION

TIME GMT NOISE

0 -- 2 RECV	30 -- 32 XMIT
2 -- 4 XMIT	32 -- 34 RECV
4 -- 6 RECV	34 -- 36 XMIT
6 -- 8 XMIT	36 -- 38 RECV
8 -- 10 RECV	38 -- 40 XMIT
10 -- 12 XMIT	40 -- 42 RECV
12 -- 14 RECV	42 -- 44 XMIT
14 -- 16 XMIT	44 -- 46 RECV
16 -- 18 RECV	46 -- 48 XMIT
18 -- 20 XMIT	48 -- 50 RECV
20 -- 22 RECV	50 -- 52 XMIT
22 -- 24 XMIT	52 -- 54 RECV
24 -- 26 RECV	54 -- 56 XMIT
26 -- 28 XMIT	56 -- 58 RECV
28 -- 30 RECV	58 -- 60 XMIT

DATE STATION

TIME GMT NOISE

0 -- 2 XMIT	30 -- 32 RECV
2 -- 4 RECV	32 -- 34 XMIT
4 -- 6 XMIT	34 -- 36 RECV
6 -- 8 RECV	36 -- 38 XMIT
8 -- 10 XMIT	38 -- 40 RECV
10 -- 12 RECV	40 -- 42 XMIT
12 -- 14 XMIT	42 -- 44 RECV
14 -- 16 RECV	44 -- 46 XMIT
16 -- 18 XMIT	46 -- 48 RECV
18 -- 20 RECV	48 -- 50 XMIT
20 -- 22 XMIT	50 -- 52 RECV
22 -- 24 RECV	52 -- 54 XMIT
24 -- 26 XMIT	54 -- 56 RECV
26 -- 28 RECV	56 -- 58 XMIT
28 -- 30 XMIT	58 -- 60 RECV